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PATENT
Docket No. 6311.N

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Brian J. STOCKMAN)
Serial No.: 09/829,872)
Confirmation No.: 7416)
Filed: 10 April 2001)

Group Art Unit: 1645
Examiner: Unknown

For: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES
PAPILLOMAVIRUS E2 PROTEIN

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TECHNICAL 1600/292

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington D.C. 20231

Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 *et. seq.*, the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Consideration of each of the documents listed on the attached 1449 form(s) is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicant further requests that a copy of the 1449 forms, marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

Applicant also wishes to bring the Examiner's attention to the following pending U.S. Applications, as well as any prior art and any provisional U.S. patent applications referenced therein. Copies of the below-listed pending U.S. Patent Applications are provided herewith.

Information Disclosure Statement

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Applicant(s): Brian J. STOCKMAN

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For: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES IN PAPILLOMAVIRUS E2 PROTEIN

List of Pending Non-Published U.S. Patent Applications

Applicant(s)	Application Number	Filing Date	Serial No. of Provisional Application to which listed Application claims priority
Stockman et al.	09/677,107	09/29/00	60/156,818, filed 9/29/99; 60/161,682, filed 10/26/99; 60/192,685, filed 3/28/00
Stockman et al.	unassigned (CIP of 09/677,107)	11/19/01	60/156,818, filed 9/29/99; 60/161,682, filed 10/26/99; 60/192,685, filed 3/28/00

It is believed that no fee is due, as this Information Disclosure Statement is filed prior to the receipt of any Action on the merits. However, in the event a fee is due, please charge any fee or credit any overpayment to Account No. 13-4895.

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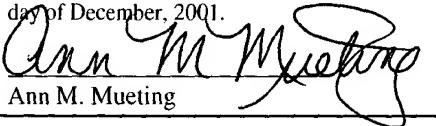
For: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES IN PAPILLOMAVIRUS E2 PROTEIN

Page 3 of 3

The Examiner is invited to contact Applicant's Representatives at the below-listed telephone number, if they can be of any assistance during prosecution of the present application.

CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper is being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 28th day of December, 2001.


Ann M. Mueting

December 28, 2001
Date

Respectfully submitted for

Brian J. Stockman

By

Mueting, Raasch & Gebhardt, P.A.

P.O. Box 581415

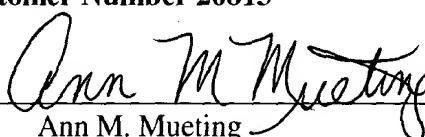
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Applicant(s): Brian J. STOCKMAN

Group Art Unit: 1645

Serial No.: 09/829,872

Examiner: Unknown

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Docket No.: 6311.N

Filed: 10 April 2001

(M&R 268.6311 0101)

Title: NUCLEAR MAGNETIC RESONANCE METHODS FOR IDENTIFYING SITES IN
PAPILLOMAVIRUS E2 PROTEINAssistant Commissioner for Patents
Washington, D.C. 20231

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

- An itemized return postcard.
- A Petition for Extension of Time for ___ month(s) and a check in the amount of \$___ for the required fee.
- An Information Disclosure Statement (3 pgs); copies of 2 applications; 1449 forms (11 pgs); and copies of 129 documents cited on the 1449 forms.
- A check in the amount of \$___, for ___.
- A certified copy of a ___ application, Serial No. ___, filed _____, the right of priority of which is claimed under 35 U.S.C. §119.
- Other:
- Amendment ___ No Additional fee is required. ___ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$18 =	
Independent Claims				x \$84 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$280 Here →					
Total Additional Claim Fees Required					

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

CERTIFICATE UNDER 37 C.F.R. §1.8: The undersigned hereby certifies that this Transmittal Letter and the paper(s), as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on this 28th day of December, 2001.

MUETING, RAASCH & GEBHARDT, P.A.

Customer Number: 26813

By:

Ann M. Mueting

Reg. No.: 33,977

Direct Dial: 612-305-1217

Facsimile: 612-305-1228

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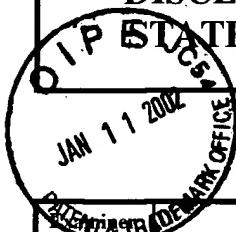
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Filing Date: 10 April 2001	Group: 1645

**U.S. PATENT DOCUMENTS**

Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	4,719,582	01/12/88	Ishida et al.			
	5,270,163	12/14/93	Gold et al.			
	5,306,619	04/26/94	Edwards et al.			
	5,668,734	09/16/97	Krishna et al.			
	5,698,401	12/16/97	Fesik et al.			
	5,804,390	09/08/98	Fesik et al.			
	5,837,460	11/17/98	Von Feldt et al.			
	5,856,496	01/05/99	Fagnola et al.			
	5,891,643	04/06/99	Fesik et al.			
	5,989,827	11/23/99	Fesik et al.			
	6,043,024	03/28/00	Fesik et al.			
	6,214,561	04/10/01	Peters et al.			

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TECH CENTER 1600/2000**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	DE 196 49 359 C1	02/12/98	Germany (with English language abstract)				X
	EP 0 592 816 A1, B1	04/20/94	EPO (with English language abstract)				X
	GB 2 316 941 A	03/11/98	United Kingdom				
	GB 2 321 104 A	07/15/98	United Kingdom				
	WO 91/10140	07/11/91	WIPO				
	WO 91/17428	11/14/91	WIPO				
	WO 93/00446	01/07/93	WIPO				
	WO 94/14980	07/07/94	WIPO				
	WO 96/30849	10/03/96	WIPO				

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WO 96/30849	10/03/96	WIPO			
WO 97/00244	01/03/97	WIPO			
WO 97/18469	05/22/97	WIPO			
WO 97/18471	05/22/97	WIPO			
WO 98/46548	10/22/98	WIPO			
WO 98/48264	10/29/98	WIPO			
WO 98/57155	12/17/98	WIPO			
WO 99/09024	02/25/99	WIPO			
WO 99/17616	04/15/99	WIPO			
WO 99/36422	07/22/99	WIPO			
WO 99/43643	09/02/99	WIPO			

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OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

Examiner Initial	Document Description
	Ajay et al., "Can We Learn To Distinguish between "Drug-like" and "Nondrug-like" Molecules?" <i>Journal of Medicinal Chemistry</i> , 41(18):3314-3324 (1998).
	Anderson et al., "Affinity NMR: Decoding DNA Binding," <i>Journal of Combinatorial Chemistry</i> , 1(1):69-72 (1999).
	Balaram et al., "Localization of Tyrosine at the Binding Site of Neurophysin II by Negative Nuclear Overhauser Effects," <i>Journal of the American Chemical Society</i> , 94(11): 4017-4018 (1972).
	Barjat et al., "High-Resolution Diffusion-Ordered 2D Spectroscopy (HR-DOSY) - A New Tool for the Analysis of Complex Mixtures," <i>Journal of Magnetic Resonance, Series B</i> , 108:170-172 (1995).
	Bax et al., "Sensitivity-Enhanced Two-Dimensional Heteronuclear Shift Correlation NMR Spectroscopy," <i>Journal of Magnetic Resonance</i> , 67:565-569 (1986).
	Belton et al., "Application of chemometrics to the ¹ H NMR spectra of apple juices: discrimination between apple varieties," <i>Food Chemistry</i> , 61(1/2):207-213 (1998).

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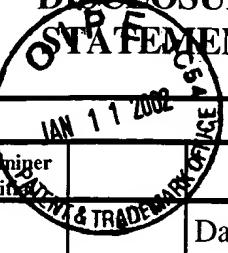
Examiner Initial	Document Description
	Bemis et al., "The Properties of Known Drugs. 1. Molecular Frameworks," <i>Journal of Medicinal Chemistry</i> , 39(15):2887-2893 (1996).
	Bemis et al., "Properties of Known Drugs. 2. Side Chains," <i>Journal of Medicinal Chemistry</i> , 42(25):5095-5099 (1999).
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	Bleicher et al., "Diffusion Edited NMR: Screening Compound Mixtures by Affinity NMR to Detect Binding Ligands to Vancomycin," <i>Journal of Organic Chemistry</i> , 63(23):8486-8490 (1998).
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	Bothner-By et al., "Binding of Small Molecules to Proteins," <i>Annals of the New York Academy of Sciences</i> , 222:668-676 (1973).
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	Bussiere et al., "Structure of the E2 DNA-Binding Domain from Human Papillomavirus Serotype 31 at 2.4 Å," <i>Acta Crystallographica</i> , D54(Part 6, No. 2):1367-1376 (1998).
	Chen et al., "NOE Pumping: A Novel NMR Technique for Identification of Compounds with Binding Affinity to Macromolecules," <i>Journal of the American Chemical Society</i> , 120(39):10258-10259 (1998).
	Chen et al., "NOE Pumping. 2. A High-Throughput Method To Determine Compounds with Binding Affinity to Macromolecules by NMR," <i>Journal of the American Chemical Society</i> , 122(2):414-415 (2000).
	Chiyoda et al., "Screening System for Urease Inhibitors Using ¹³ C-NMR," <i>Chemical & Pharmaceutical Bulletin</i> , 46(4):718-720 (1998).
	Dalvit et al., "Use of organic solvents and small molecules for locating binding sites on proteins in solution," <i>Journal of Biomolecular NMR</i> , 14(1):23-32 (1999).

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	Dalvit et al., "Identification of compounds with binding affinity to proteins via magnetization transfer from bulk water," <i>Journal of Biomolecular NMR</i> , 18(1):65-68 (2000).
	Delaglio, "Adaptive Analysis and Multivariate Methods for Applications," Abstract, <i>Lab Instrumentation Series, Cambridge Healthtech Institute's Second International, NMR Technologies: Development and Applications for Drug Discovery</i> , Sheraton Inner Harbor Hotel, Baltimore, Maryland, 2 pages (November 4-5, 1999).
	Detlefsen et al., "Molecular Flexibility Profiling Using NMR Spectroscopy," <i>Current Medicinal Chemistry</i> , 6(5):353-358 (1999).
	Fairbanks et al., "Purification and structural characterization of the CD11b/CD18 integrin α subunit I domain reveals a folded conformation in solution," <i>FEBS Letters</i> , 369(2-3):197-201 (1995).
	Farly et al., "Applications of Flow NMR Spectroscopy to Monitor Binding of Small Molecules to Proteins," Abstract and Poster, Session 6. Applications of NMR to High Throughput Screening and Combinatorial Chemistry, <i>SMASH: Small Molecule NMR Conference, SMASH'99</i> , Argonne National Laboratory, Argonne, IL, 32 pages (August 15-18, 1999).
	Farmer II et al., "Localizing the NADP ⁺ binding site on the MurB enzyme by NMR," <i>Nature Structural Biology</i> , 3(12):995-997 (1996).
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	Fejzo et al., "The SHAPES Strategy: An NMR Based Approach for Lead Generation in Drug Discovery," Abstract MIIA-4, <i>Proceedings of the 18th International Conference on Magnetic Resonance in Biological Systems</i> , Tokyo Metropolitan University, Tokyo, Japan, 3 pages (August 23-28, 1998).
	Fejzo et al., "The SHAPES strategy: an NMR-based approach for lead generation in drug discovery," <i>Chemistry & Biology</i> , 6(10):755-769 (1999).
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Examiner Initials <i>[Circular stamp: PATENT & TRADEMARK OFFICE]</i>	Document Description
	Freeman et al., "Proton-detected ¹⁵ N NMR spectroscopy and imaging," EPO abstract, XP 002029543, from <i>Journal of Magnetic Resonance, Series B</i> , 102(2):183-192, 1 page (1993).
	Freeman et al., "Proton-Detected ¹⁵ N NMR Spectroscopy and Imaging," <i>Journal of Magnetic Resonance, Series B</i> , 102(2):183-192 (1993).
	Ghose et al., "A Knowledge-Based Approach in Designing Combinatorial or Medicinal Chemistry Libraries for Drug Discovery. 1. A Qualitative and Quantitative Characterization of Known Drug Databases," <i>Journal of Combinatorial Chemistry</i> , 1(1):55-68 (1999).
	Gonnella et al., "Isotope-Filtered Affinity NMR," <i>Journal of Magnetic Resonance</i> , 131(2):336-338 (1998).
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	Hajduk et al., "One Dimensional Relaxation- and Diffusion-Edited NMR Methods for Screening Compounds That Bind to Macromolecules," <i>Journal of the American Chemical Society</i> , 119(50):12257-12261 (1997).
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	Hegde et al., "Crystal structure at 1.7 Å of the bovine papillomavirus-1 E2 DNA-binding domain bound to its DNA target," <i>Nature</i> , 359(6395):505-512 (1992).
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	Henrichsen et al., "Bioaffinity NMR Spectroscopy: Identification of an E-Selectin Antagonist in a Substance Mixture by Transfer NOE," <i>Angewandte Chemie, International Edition</i> , 38(1/2):98-102 (1999).

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	Holmes et al., "Development of a model for classification of toxin-induced lesions using ¹ H NMR spectroscopy of urine combined with pattern recognition," <i>NMR in Biomedicine</i> , 11(4-5):235-244 (1998).
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	Keifer, "High-resolution NMR techniques for solid-phase synthesis and combinatorial chemistry," <i>Drug Discovery Today</i> , 2(11):468-478 (1997).
	Keifer, "New methods for obtaining high-resolution NMR spectra of solid-phase synthesis resins, natural products, and solution-state combinatorial chemistry libraries," <i>Drugs of the Future</i> , 23(3):301-317 (1998).
	Keifer, "NMR tools for biotechnology," <i>Current Opinion in Biotechnology</i> , 10(1):34-41 (1999).
	Keifer et al., "Direct-Injection NMR (DI-NMR): A Flow NMR Technique for the Analysis of Combinatorial Chemistry Libraries," <i>Journal of Combinatorial Chemistry</i> , 2(2):151-171 (2000).
	Kulkov and Williams, "Searching NMR Databases and Predicting NMR Spectra Over the Web," Abstract 71, <i>Abstracts of Papers, Part 1, 218th ACS National Meeting</i> , American Chemical Society, New Orleans, LA, 4 pages (August 22-26, 1999).
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	Liepinsh et al., "Organic solvents identify specific ligand binding sites on protein surfaces," <i>Nature Biotechnology</i> , 15(3):264-268 (1997).
	Lin et al., "Diffusion-Edited NMR-Affinity NMR for Direct Observation of Molecular Interactions," <i>Journal of the American Chemical Society</i> , 119(22):5249-5250 (1997).

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Document Description

	Lin et al., "Screening Mixtures by Affinity NMR," <i>Journal of Organic Chemistry</i> , 62(25):8930-8931 (1997).
	Lindon et al., "Direct coupling of chromatographic separations to NMR spectroscopy," <i>Progress in Nuclear Magnetic Resonance Spectroscopy</i> , 29:1-49 (1996).
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	Lipinski et al., "Experimental and computational approaches to estimate solubility and permeability in drug discovery and development settings," <i>Advanced Drug Delivery Reviews</i> , 23:3-25 (1997).
	Liu et al., "High-Resolution Diffusion and Relaxation Edited One- and Two-Dimensional ¹ H NMR Spectroscopy of Biological Fluids," <i>Analytical Chemistry</i> , 68(19):3370-3376 (1996).
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	McBride et al., "The Papillomavirus E2 Regulatory Proteins," <i>The Journal of Biological Chemistry</i> , 266(28):18411-18414 (1991).
	Meyer et al., "Screening mixtures for biological activity by NMR," <i>European Journal of Biochemistry</i> , 246(3):705-709 (1997).
	Moore, "NMR Techniques for Characterization of Ligand Binding: Utility for Lead Generation and Optimization in Drug Discovery," <i>Biopolymers (Peptide Science)</i> , 51(3):221-243 (1999).
	Moore, "NMR screening in drug discovery," <i>Current Opinion in Biotechnology</i> , 10(1):54-58 (1999).
	Morris et al., "Diffusion-Ordered Two-Dimensional Nuclear Magnetic Resonance Spectroscopy," <i>Journal of the American Chemical Society</i> , 114(8):3139-3141 (1992).

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		Morris et al., "Resolution of Discrete and Continuous Molecular Size Distributions by Means of Diffusion-Ordered 2D NMR Spectroscopy," <i>Journal of the American Chemical Society</i> , 115(10):4291-4299 (1993).
		Neri et al., " ¹ H, ¹³ C and ¹⁵ N backbone assignments of cyclophilin when bound to cyclosporin A (CsA) and preliminary structural characterization of the CsA binding site," <i>FEBS Letters</i> , 294(1,2):81-88 (1991).
		Nicholson et al., "'Metabonomics': understanding the metabolic responses of living systems to pathophysiological stimuli via multivariate statistical analysis of biological NMR spectroscopic data," <i>Xenobiotica</i> , 29(11):1181-1189 (1999).
		Pearlman et al., "Novel Software Tools for Chemical Diversity," <i>Perspectives in Drug Discovery and Design</i> , 09/10/11:339-353 (1998).
		Phelps et al., "Molecular targets for human papillomaviruses: prospects for antiviral therapy," <i>Antiviral Chemistry & Chemotherapy</i> , 9(5):359-377 (1998).
		Piotto et al., "Gradient-tailored excitation for single-quantum NMR spectroscopy of aqueous solutions," <i>Journal of Biomolecular NMR</i> , 2(6):661-665 (1992).
		Ponstingl et al., "Detection of protein-ligand NOEs with small, weakly binding ligands by combined relaxation and diffusion filtering," <i>Journal of Biomolecular NMR</i> , 9:441-444 (1997).
		Rabenstein et al., "A Pulse Sequence for the Measurement of Spin-Lattice Relaxation Times of Small Molecules in Protein Solutions," <i>Journal of Magnetic Resonance</i> , 34:669-674 (1979).
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		Ross et al., "Automation of NMR measurements and data evaluation for systematically screening interactions of small molecules with target proteins," <i>Journal of Biomolecular NMR</i> , 16(2):139-146 (2000).
		Sadowski et al., "A Scoring Scheme for Discriminating between Drugs and Nondrugs," <i>Journal of Medicinal Chemistry</i> , 41(18):3325-3329 (1998).
		Scherf et al., "A T _{1ρ} -filtered two-dimensional transferred NOE spectrum for studying antibody interactions with peptide antigens," <i>Biophysical Journal</i> , 64(3):754-761 (1993).

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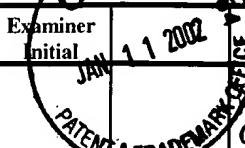
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